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No 12 – October/November 2009

GENERAL INTEREST

The U.S. Clean Energy Economy

A Look at Jobs, Savings, Investment, Competitiveness, and the Costs of Inaction
Center for American Progress – Fact sheet – Updated November 10, 2009 – 4 pages
http://www.americanprogress.org/issues/2009/11/us_clean_energy_economy.html

‘Clean-energy jobs are already here and growing fast. There were 770,385 clean-energy jobs and 68,205 clean-energy businesses in the United States as of 2007. This only counts direct jobs and not the many indirect jobs in industries that support the clean energy economy.’

Energy and Related Economic Effects of Global Climate Change Legislation

Senate Committee on Energy and Natural Resources – Hearing – October 14, 2009
http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=3050c928-94fb-d215-d744-8018edf5a669

Witnesses:

Dr. Douglas Elmendorf, Congressional Budget Office
The Honorable Richard Newell - Administrator, Energy Information Administration
Mr. Reid Harvey, U.S. Environmental Protection Agency
Dr. Larry Parker, Congressional Research Service

Costs and Benefits for Energy Consumers and Energy Prices Associated with the Allocation of Greenhouse Gas Emission Allowances

Senate Committee on Energy and Natural Resources – Hearing – October 21, 2009
http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=3abdbd7b-0682-273e-80a3-dfa9550c8384

Dr. Denny Ellerman, Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology
Dr. Gilbert Metcalf, Tufts University
Dr. Karen Palmer, Resources for the Future
Dr. Chad Stone, Center on Budget and Policy Priorities

Impacts of H.R. 3795, the Over-the-Counter Derivatives Market Act of 2009, on Energy Markets

House Committee on Energy and Commerce - Hearing – December 2, 2009

http://energycommerce.house.gov/index.php?option=com_content&view=article&id=1838:impacts-of-hr-3795-the-over-the-counter-derivatives-market-act-of-2009-on-energy-markets&catid=130:subcommittee-on-energy-and-the-environment&Itemid=71

The hearing addressed the legislation's impacts on organized energy markets regulated by the Federal Energy Regulatory Commission (FERC).

ENERGY EFFICIENCY

Secretary Chu Announces More than \$155 Million for Industrial Energy Efficiency Projects

Department of Energy - November 3, 2009

http://www1.eere.energy.gov/recovery/news_detail.html?news_id=15596

Energy Secretary Steven Chu announced today that the Department of Energy is awarding more than \$155 million in funding under the American Recovery and Reinvestment Act for 41 industrial energy efficiency projects across the country. These awards include funding for industrial combined heat and power systems, district energy systems for industrial facilities, and grants to support technical and financial assistance to local industry. The industrial sector uses more than 30% of U.S. energy and is responsible for nearly 30% of U.S. carbon emissions.

Recovery through Retrofit

Council on Environmental Quality - Report - October 2009 – 14 pages

http://www.whitehouse.gov/assets/documents/Recovery_Through_Retrofit_Final_Report.pdf

Making American homes and buildings more energy efficient presents an unprecedented opportunity for communities throughout the country. The Recovery Through Retrofit Report builds on investments made in the American Recovery and Reinvestment Act of 2009 (Recovery Act) to expand the home energy efficiency and retrofit market. Home retrofits can potentially help people earn money, as home retrofit workers, while also helping them save money, by lowering their utility bills. By encouraging nationwide weatherization of homes, workers of all skill levels will be trained, engaged, and will participate in ramping up a national home retrofit market.

ELECTRICITY

Biomass for Thermal Energy and Electricity through a Research and Development Portfolio for the Future

House Committee on Science and Technology – Hearing – October 21, 2009

http://science.house.gov/publications/hearings_markup_details.aspx?newsid=2638

In today's hearing we will examine a number of different technologies utilized to convert biomass feedstocks into biopower, and discuss the federal role in the development of these technologies. While more widely known as a feedstock for liquid transportation fuels, biomass can also be used to generate heat and electricity – a field otherwise known as "Biopower".

Report to U.S. And EU Leaders

Atlantic Council - November 2009 - 21 pages

http://www.acus.org/files/publication_pdfs/65/AtlanticCouncil-USEUSmartGrid.pdf

Given the considerable smart grid investments already underway in the U.S. and Europe, the U.S., the EU Commission and the EU's 27 member states should engage with each other in this promising field. The report

recommends the establishment of an appropriate transatlantic liaison with these existing efforts to ensure compatible standards and regulations based on international standards wherever possible.

Protecting the Electric Grid: H.R. 2165, the Bulk Power System Protection Act of 2009, and H.R. 2195

House - Subcommittee on Energy and the Environment - Hearing - October 27, 2009

http://energycommerce.house.gov/index.php?option=com_content&view=article&id=1791:protecting-the-electric-grid-hr-2165-the-bulk-power-system-protection-act-of-2009-and-hr-2195&catid=130:subcommittee-on-energy-and-the-environment&Itemid=71

The Subcommittee on Energy and the Environment held a hearing titled, "Protecting the Electric Grid: H.R. 2165, the Bulk Power System Protection Act of 2009, and H.R. 2195, a bill to amend the Federal Power Act to provide additional authorities to adequately protect the critical electric infrastructure against cyber attack." The hearing examined pending bills to address the protection of the electric grid from cyber and other malicious attacks.

Getting Past the Gridlock: Models for Renewable Energy Siting and Transmission"

House Committee on Natural Resources – Hearing - November 5, 2009

http://resourcescommittee.house.gov/index.php?option=com_jcalpro&Itemid=27&extmode=view&extid=304

“Now, numerous valuable new efforts are underway by the Department of the Interior and the Department of Energy to advance a major renewable energy agenda on federal lands. But, finding the best sites for new grid infrastructure is no small challenge. I believe that the federal government can often learn from looking at what the states and other stakeholders are doing. This hearing is an opportunity to examine some important models for renewable project siting and transmission.”

OIL

U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves, 2008

Energy Information Administration - October 29, 2009.

http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/crude_oil_natural_gas_reserves/cr.html

The Energy Information Administration's (EIA) estimates of proved reserves of natural gas and crude oil as of the end of 2008 tell very different stories about apparent changes in the availability of these two energy resources in the United States.

Environmental Stewardship Policies Related to Offshore Energy Production

Senate Energy Committee – Hearing – November 19, 2009

http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=c129bd12-a00d-67c6-dbd-78a685496298

Witnesses:

Dr. Walter Cruickshank - Deputy Director, Minerals Management Service, United States Department of the Interior

Mr. Marvin Odum - President, Shell Oil Company

Mr. John Amos - President, SkyTruth

Mr. David Rainey - Vice President, Gulf of Mexico Exploration, BP America Inc.

Dr. Jeffrey Short - Pacific Science Director, Oceana

Short-Term Energy and Winter Fuels Outlook

Energy Information Administration - October 6, 2009 – 47 pages

<http://www.eia.doe.gov/emeu/steo/pub/oct09.pdf>

Energy Information Administration (EIA) projects average household expenditures for space-heating fuels to be \$960 this winter, October 1 to March 31, a decrease of \$84, or 8 percent, from last winter. The forecast principally reflects lower fuel prices, although expected slightly milder weather than last winter will also contribute to lower fuel use in many areas. The largest expenditure decreases are in households using natural gas and propane, projected at 12 and 14 percent, respectively.

Thomas H. Klier and Joshua Linn

The Price of Gasoline and the Demand for Fuel Economy: Evidence from Monthly New Vehicles Sales Data

FRB Chicago – Working Paper – August 2009 -

http://www.chicagofed.org/publications/workingpapers/wp2009_15.pdf

“This paper uses a unique data set of monthly new vehicle sales by detailed model from 1978-2007, and implements a new identification strategy to estimate the effect of the price of gasoline on consumer demand for fuel economy. We control for unobserved vehicle and consumer characteristics by using within model-year changes in the price of gasoline and vehicle sales. We find a significant demand response, as nearly half of the decline in market share of U.S. manufacturers from 2002-2007 was due to the increase in the price of gasoline. On the other hand, an increase in the gasoline tax would only modestly affect average fuel economy.”

What Drives Diesel Fuel Prices?

Federal Reserve Bank of Dallas - Economic Letter - November 2009

<http://dallasfed.org/research/eclett/2009/el0909.html>

Crude oil prices, seasonal shifts and regulatory changes are major factors driving long-term diesel fuel prices, according to the latest issue of Economic Letter. It also notes that diesel prices departed from historic norms in recent years and rose above gasoline prices on spot markets. The authors estimate that spot diesel fuel prices should rise 25 cents a gallon over the next six months and 41 cents a gallon over the next 18 months.

Report to Congress: Highlights of the Diesel Emissions Reduction Program

U.S. Environmental Protection Agency - October 14, 2009 – 60 pages

<http://www.epa.gov/otaq/diesel/documents/420r09006.pdf>

The report to Congress details the health, environmental and economic benefits of the agency's Diesel Emission Reduction Program. The program, funded at \$50 million last year, allowed EPA to fund the purchase or retrofitting of 14,000 diesel-powered vehicles and pieces of equipment, preventing respiratory illnesses and saving money in communities nationwide.

NUCLEAR

Jack Spencer and Nicolas Loris

Boxer-Kerry Cap-and-Trade Bill's Nuclear Provision Won't Fuel a Nuclear Revival

The Heritage Foundation - Backgrounder - November 3, 2009

<http://www.heritage.org/Research/EnergyandEnvironment/bg2335.cfm>

“America needs a clean, safe, and sustainable energy source. Nuclear power could be part of the solution -- with the right set of free-market reforms. Congress, the nuclear industry, and many Americans agree that reform of U.S. nuclear policies is necessary, but cannot agree on what those reforms should look like. The nuclear provision in the Senate's new Clean Energy Jobs and American Power Act is a nice nod to nuclear

power, but leaves the waters muddled. Heritage Foundation energy experts Jack Spencer and Nicolas Loris provide some clarity.”

Nuclear Waste Management: Key Attributes, Challenges, and Costs for the Yucca Mountain Repository and Two Potential Alternatives

GAO - November 4, 2009 – 84 pages

<http://www.gao.gov/cgi-bin/getrpt?GAO-10-48>

“High-level nuclear waste is accumulating at 80 sites in 35 states. The Nuclear Waste Policy Act of 1982, as amended, requires the Department of Energy (DOE) to dispose of the waste in a geologic repository at Yucca Mountain, about 100 miles northwest of Las Vegas, Nevada. However, the repository is more than a decade behind schedule, and the nuclear waste generally remains at the commercial nuclear reactor sites and DOE sites where it was generated. This report examines the key attributes, challenges, and costs of the Yucca Mountain repository and the two principal alternatives to a repository that nuclear waste management experts identified: storing the nuclear waste at two centralized locations and continuing to store the waste on site where it was generated.”

The Next Generation of Fusion Energy Research

House Science Committee – Hearing - October 29, 2009

http://science.house.gov/publications/hearings_markups_details.aspx?NewsID=2653

“According to recent reviews by the National Academies and the Department of Energy, there have been significant developments in the fields of advanced computing, engineering, and plasma science over the last twenty years that have led to a far better understanding of how to create and control a fusion system... If these new facilities (National Ignition Facility and ITER) are successful, they will represent a dramatic turning point in developing a viable, commercial fusion reactor. Big questions will still remain, such as how affordable fusion can be in comparison to other options, and what the appropriate choices are for materials in a device which contains gases that can be hotter than the sun. But the U.S. fusion program needs to do all it can to ensure these successes, and be ready to take advantage of them if and when they occur.”

BIOFUELS

Scott A. Malcolm et al.

Ethanol and a Changing Agricultural Landscape

U.S. Department of Agriculture - November 18, 2009 – 64 pages

<http://www.ers.usda.gov/Publications/ERR86/ERR86.pdf>

The Energy Independence and Security Act (EISA) of 2007 established specific targets for the production of biofuel in the U.S. Until advanced technologies become commercially viable, meeting these targets will increase demand for traditional agricultural commodities used to produce ethanol, resulting in land-use, production, and price changes throughout the farm sector. The report summarizes the estimated effects of meeting the EISA targets for 2015 on regional agricultural production and the environment.

Biofuels: Potential Effects and Challenges of Required Increases in Production and Use

U.S. Government Accountability Office - Web posted October 2, 2009 – 184 pages

<http://www.gao.gov/new.items/d09446.pdf>

In December 2007, the Congress expanded the renewable fuel standard (RFS), which requires rising use of ethanol and other biofuels, from 9 billion gallons in 2008 to 36 billion gallons in 2022. To meet the RFS, the Departments of Agriculture (USDA) and Energy (DOE) are developing advanced biofuels that use cellulosic feedstocks, such as corn stover and switchgrass. The Environmental Protection Agency (EPA) administers the

RFS. The report examines, among other things, (1) the effects of increased biofuels production on U.S. agriculture, environment, and greenhouse gas emissions; (2) federal support for domestic biofuels production; and (3) key challenges in meeting the RFS.

Harry de Gorter and David R. Just

Why Sustainability Standards for Biofuel Production Make Little Economic Sense

Cato Institute - Policy Analysis - October 7, 2009 – 12 pages

<http://www.cato.org/pubs/pas/pa647.pdf>

“The federal “sustainability standard” requires ethanol to emit at least 20 percent less carbon dioxide (CO₂) than gasoline. Recent rulings by California and the Environmental Protection Agency, however, have cast doubt on the methodology of the sustainability calculus and whether those standards are being met. We show that the methodological debate is misplaced because sustainability standards for ethanol are, by definition, illogical and ineffective. Moreover, those standards divert attention from the contradictions and inefficiencies of ethanol import tariffs, tax credits, mandates, and subsidies, all of which exist whether ethanol is sustainable or not.”

The Future of Next Generation Biofuels

House Agriculture Committee – Hearing - October 29, 2009

<http://agriculture.house.gov/hearings/statements.html>

Witnesses:

Mr. Dallas Tonsager, Under Secretary, Rural Development, U.S. Department of Agriculture

Dr. Rajiv Shah, Under Secretary for Research, U.S. Department of Agriculture,

Ms. Mary Rosenthal, Executive Director, Algal Biomass Association, Preston, Minnesota

Ms. Susan Ellerbusch, President, BP Biofuels North America LLC, Warrenville, Illinois

Mr. William J. Roe, President and CEO, Coskata, Inc., Warrenville, Illinois

Mr. Bruce Jamerson, Chairman of the Board, Mascoma, Lebanon, New Hampshire

Mr. Craig Shealy, President and CEO, Osage Bio Energy, LLC, Glen Allen, Virginia

Energy-Water Nexus: Many Uncertainties Remain about National and Regional Effects of Increased Biofuel Production on Water Resources.

GAO, Report - November 30, 2009 – 54 pages

<http://www.gao.gov/cgi-bin/getrpt?GAO-10-116>

“In response to concerns about the nation’s energy dependence on imported oil, climate change, and other issues, the federal government has encouraged the use of biofuels. Water plays a crucial role in all stages of biofuel production—from cultivation of feedstock through its conversion into biofuel. As demand for water from various sectors increases and places additional stress on already constrained supplies, the effects of expanded biofuel production may need to be considered.”

SOLAR

Solar Heats Up: Accelerating Widespread Deployment

Committee on Energy Independence and Global Warming - Hearing - September 24, 2009

http://globalwarming.house.gov/pubs?id=0010#main_content

This hearing examines current issues in solar energy development. With sales growing 40 percent annually and costs falling rapidly, solar power has emerged as a core technology in America’s transition a clean energy economy. Solar energy brings opportunity in the form of new jobs and rapid technological development. It

also presents potential new challenges in the way we use land and infrastructure and the way we distribute and store energy.

Ryan Wiser, Galen Barbose, Carla Peterman, Naim Darghouth

Tracking the Sun II - The Installed Cost of Photovoltaics in the U.S. from 1998-2008

Lawrence Berkeley National Laboratory – Report – 50 pages

<http://eetd.lbl.gov/ea/EMS/reports/lbnl-2674e.pdf>

“As the deployment of grid-connected solar photovoltaic (PV) systems has increased, so too has the desire to track the installed cost of these systems over time and by location, customer type, system characteristics, and component. This report helps to fill this need by summarizing trends in the installed cost of grid-connected PV systems in the United States from 1998 through 2008 (updating a previous report with data through 2007).¹ The analysis is based on installed cost data from more than 52,000 residential and non-residential PV systems, totaling 566 MW and representing 71% of all grid-connected PV capacity installed in the U.S. through 2008.”

Solar America Cities

Department of Energy

<http://www.solaramericacities.energy.gov/>

Through the U.S. Department of Energy's Solar America Cities partnership, 25 major U.S. cities are working to accelerate the adoption of solar energy technologies for a cleaner, more secure energy future. The Solar America Cities program has engaged over 180 organizations, including municipal, county, and state agencies, solar companies, universities, utilities, and non-profit organizations. These partners have made a commitment to power their cities with clean, safe, reliable energy -- solar energy.

Solar Installer Instructor Training Network

Department of Energy – October 2009

http://www1.eere.energy.gov/solar/instructor_training_network.html

The Solar Installer Instructor Training network was launched in October 2009 to address a critical need for high-quality, local, and accessible training in solar system design, installation, sales, and inspection. Solar Installer Instructor Training is a 5-year effort intended to create a geographic blanket of training opportunities in solar installation across the United States.

National Laboratory Call for Research and Development Projects

Department of Energy – October 2009

http://www1.eere.energy.gov/solar/national_lab_projects.html

The Solar Energy Technologies Program (SETP or Solar Program) initiated a call for foundational photovoltaics and concentrating solar power research and development activities among the U.S. Department of Energy national laboratories. DOE will invest up to \$17 million in the following new national lab R&D projects. The investment is part of \$117.6 million in the American Recovery and Reinvestment Act funding, which was announced in May 2009. The winners were announced on October 8, 2009.

Solar Decathlon

Department of Energy – 2009

<http://www.solardecathlon.org/>

The Solar Decathlon joins 20 college and university teams in a competition to design, build, and operate the most attractive and energy-efficient solar-powered house.

Evaluating the Potential of Solar Technologies

Mc Kinsey Quarterly – September 2009 –

https://www.mckinseyquarterly.com/Energy_Resources_Materials/Electric_Power/Evaluating_the_potential_of_solar_technologies_2426

“Solar power is poised to grow into a reliable alternative energy source, promising lower carbon emissions and decreased dependence on fossil fuels. What technologies are currently jostling for leadership in the market?”

OTHER RENEWABLE ENERGIES

Wind Powering America

Department of Energy

<http://www.windpoweringamerica.gov/>

Wind Powering America is a commitment to dramatically increase the use of wind energy in the United States. This initiative will establish new sources of income for American farmers, Native Americans, and other rural landowners, and meet the growing demand for clean sources of electricity. Through Wind Powering America, the United States will achieve targeted regional economic development, enhance our power generation options, protect the local environment, and increase our energy and national security.

Marine and Hydrokinetic Energy Technology: Finding the Path to Commercialization

House Science Committee – Hearing – December 3, 2009

http://science.house.gov/publications/hearings_markups_details.aspx?NewsID=2694

“In today’s hearing we will explore the role of the Federal government and industry in developing technologies related to marine and hydrokinetic energy generation. These technologies include devices which harness energy from waves, tidal, ocean and river currents, and ocean thermal gradients. Development of related environmental monitoring technologies is critical for appropriate implementation of these emerging technologies.”

ARPA-E

Department of Energy

<http://arpa-e.energy.gov/>

ARPA-E's mission is to develop nimble, creative and inventive approaches to transform the global energy landscape while advancing America's technology leadership. This is the first round of projects funded under ARPA-E, which is receiving total of \$400 million under the American Recovery and Reinvestment Act. On October 26, 2009, the Department of Energy announced \$151 Million in funding for 37 ambitious research projects that pursue breakthroughs that could fundamentally change the way we use and produce energy

INTERNATIONAL RELATIONS

Methane to Markets: The U.S. Government’s Methane to Markets Partnership Accomplishments

U.S. Environmental Protection Agency – Hearing - October 21, 2009 – 26 pages

http://www.epa.gov/methanetomarkets/pdf/2009-accomplish-report/m2m_usg_fullreport.pdf

The Methane to Markets Partnership plays an important role in promoting methane capture and use projects internationally and reducing emissions of methane globally. The report summarizes the contributions of participating U.S. government agencies and highlights the projects and activities since the launch of the Partnership in November 2004. Among accomplishments, U.S. government initiated direct assistance agreements for methane recovery and use projects in Argentina, Brazil, Bulgaria, Chile, China, Colombia, Ecuador, India, Kyrgyz Republic, Mexico, Nigeria, Philippines, Poland, Russia, Thailand, and Ukraine.

Nancy Birdsall and Arvind Subramanian

Energy Needs and Efficiency, Not Emissions: Re-Framing the Climate Change Narrative

Center for Global Development - November 9, 2009

<http://www.cgdev.org/content/publications/detail/1423191>

The basic narrative on climate change between the rich and poor worlds has been problematic. The focus on emissions has made industrial countries inadequately sensitive to the unmet energy needs in developing countries. And it has led developing countries to adopt the rhetoric of recrimination and focus on the legacy of historical emissions by industrial countries. The ensuing blame game has led to the current gridlock, according to the report.

COUNTRY ANALYSIS BRIEF

Azerbaijan

Energy Information Administration - October 2009 – 7 pages

<http://www.eia.doe.gov/emeu/cabs/Azerbaijan/pdf.pdf>

With oil production in decline in most countries outside OPEC, Azerbaijan is seen as one of the few non-OPEC countries capable of increasing its output significantly over the next few years. However, conflicting claims over the maritime and seabed boundaries of the Caspian Sea have yet to be agreed among the 5 littoral states, Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan. An agreement on the division of the Caspian's rich oil and natural gas resources would open up new areas of exploration.

Equatorial Guinea

Energy Information Administration - October 30, 2009 – 6 pages

http://www.eia.doe.gov/emeu/cabs/Equatorial_Guinea/pdf.pdf

Equatorial Guinea has become a significant oil exporter since the discovery and development of large offshore oil reserves in the mid-1990s. While oil production has increased from 5,000 barrels per day (bbl/d) to current levels of close to 365,000 bbl/d, production rates are declining and affecting government revenues which are almost entirely dependent on the sector. According to the International Monetary Fund's (IMF) latest data, oil exports accounted for close to 75 percent of GDP in 2007.